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The Boston Fern Show

R. C. BENEDICT.

The Boston fern show deserves to be reported first from the standpoint of the fern lover, as are all members of the American Fern Society. It should be reported also as indicative of the present status of tropical ferns as cultivated plants in the United States. Finally there should be reported as accurately as possible a list of the different kinds of ferns which were shown at Boston since the exhibition probably included most of the species and varieties at present cultivated in this country.

The desire of every fern lover is to find for himself some new or hitherto unfamiliar kind of fern, or to find some old friend in an unexpected place. He delights also in discovering some glen, woods, cliffside, or ravine in which masses of ferns luxuriate, in which perhaps a considerable number of different kinds occur together.

Mr. E. J. Winslow claims for the Willoughby Lake region, Vermont, precedence in the number of fern species native in a limited area, at least in the more northern states. The central New Yorker notes the claim, but thinks with complacency of his limestone slopes and cliffs, his glacial period "fossil" water falls, with their wealth of ferns, especially their prized hart's tongue. Dr. John K. Small rhapsodizes of Florida,—the "Land of Ferns" he calls it,—and writes book after book to make its fern wealth better known.

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Boston from Sept. 22-25 reproduced a "land of ferns" through the activity of the Massachusetts Horticultural Society, and its president, A. C. Burrage. On the days and nights preceding Sept. 22nd, trains, boats, and auto trucks were carrying ferns in quantity toward Horticultural Hall, the home building of the Horticultural Society. To this focus there were gathered from Pennsylvania, New Jersey, New York, Connecticut, and Massachusetts, from commercial growers, from private individuals, and from public institutions, more species of ferns than are found in any state in the Union, even Florida, almost as many as are to be found in the whole country. The Brooklyn Botanic Garden sent sixteen large cases and crates, totalling nearly two tons, but W. A. Manda, a commercial grower of South Orange, N. J., sent one hundred and twenty-five, weighing proportionately more. One o'clock, Thursday, Sept. 22nd, after all night labor by many, found the exhibition ready for visitors.

The visitor entered first a room about sixty-five feet long, given over entirely to the plants entered by Mr. Burrage. The center was a bower of splendid tree ferns, mostly Mexican cibotiums set high on cork covered pedestals. The four walls were hidden by arrays of ferns and orchids, with some other plants. On one wall were numerous plants of the bizarre staghorn ferns, *Aleicornium*, (or *Platyserium*,) stretching out their spore bearing antler-like leaves while their humus leaves clung tightly to the substratum. At the other end of the room, through a lane of tree ferns, was an array of various foliage plants, Begonias, selaginellas, and hanging baskets of a Polynesian polypodium, *P. subauriculatum*, and its ruffled variety, *Knightsae*. Against the long wall at the left was a glorious spread of orchids, mostly of the *Cattleya* type, but with all manner of colors, intermingled with sprays of *Oncidium*, with its

panicles of yellow butterfly flowers, and with ferns for background.

The remaining wall held the greatest interest for the fern lover. Picture a rocky slope sixty feet long, perhaps ten feet on the slope, with bays and projecting promontories, covered with a diverse array of tropical fern species, scarcely two plants of the same species, and with a total of nearly one hundred kinds altogether. It was not merely a pot plant display, for the plants were set among the rocks, with the pots hidden under moss or otherwise concealed, and the different kinds stood out as individuals growing naturally against a not improbable background. The feeling of the wild was somewhat interrupted by a grotto or cave in the center, with white figures of children, electrically illuminated.

It is difficult to pick out any particular species for special comment. The whole bank was a wealth of forms, representing about forty genera. Perhaps *Selaginella uncinata* (or *caesia*), in a collection of selaginellas, deserves comment for its beautifully iridescent, blue-green foliage, most unusual in plants. Credit for the general arrangement of this room goes to Mr. Douglas Eccleston, superintendent for Mr. Burrage.

In the next room there were a series of glass cases containing leaves of various fern species displayed to show their fruiting characteristics, and one case with fern books. This room was in a balcony, overlooking the main hall, over one hundred feet long, and two or three stories high.

From it one looked down on tons of ferns, covering hundreds of square feet of floor and wall space under their varying shades of green. In the foreground, the Manda collections were most attractively arranged in a landscaped effect, with a central plot of "lawn," made by a spread of a small variety of Boston fern, sloping

sideways and toward the back to higher plants, interrupted by occasional taller plants, and with tree ferns rising along the sides. Bunker Hill monument, done in selaginellas, stood at the front and foot of the hill instead of at the top. Hanging baskets of polypodiums, fern balls of *nephrolepis*, maidenhairs, flanked the wall at the left, while a cluster of huge *cibotiums*, a "herd" of staghorns, and a corner of bromeliads covered the other wall.

Beyond the main Manda group were smaller groups, of orchids, of cacti, and some other flowering plants, as well as of ferns. The champion fern of the whole exhibit was a huge *Angiopteris evecta*, shown by Julius Roehrs, of Rutherford, N. J. Its leaves towered ten feet from a fleshy stem, with leafstalks three inches through. One of the most beautiful species in the whole exhibition was shown by Thos. Proctor, in *Davallia Mooreana*, with beautifully cut pale green leaves. The far end of the large room was covered with cedars, to top a banked display of ferns shown by Wollrath & Sons of Massachusetts.

In the third room were two fern groups, together with several orchid collections of special merit, including the champion orchid of the entire exhibition. Here were fifty plants of Boston fern varieties shown by F. R. Pierson, of Tarrytown, N. Y., who grows specimen plants so full of leaves as to make one wonder how they can all be nourished from one pot of soil. Here also were the ferns sent by the Brooklyn Botanic Garden, one hundred and eight species and varieties. Sixty-six belonged in one genus, *Nephrolepis*, and forty-seven were varieties of one form, the Boston fern, the genealogy of which had been worked out at the Garden. The other ferns included forty-two different forms covering as wide a range of genera and families as possible, and including such oddities as the mosquito fern, *Azolla*,

the floating fern, *Salvinia*, the four-leaved clover ferns, *Marsilia quadrifolia* and *M. Drummondii*, and the horn fern, *Ceratopteris pteridoides*, found in Florida, floating on streams. Here also were the non-fern types, *Isoetes*, *Selaginella*, *Psilotum*, an epiphytic lycopod type of the tropics, and *Equisetum scirpoides* as a vigorous pot plant.

We may hope that this, probably the first horticultural exhibition mainly devoted to ferns to be held in this country, may be regularly and widely repeated. Certainly the members of the American Fern Society do not require any arguments to convince them that these, their favorite plants, are worthy of such recognition.

LIST OF FERN SPECIES EXHIBITED.

In the list which follows, undoubtedly some few species have been unintentionally left out. It makes no real attempt at scientific accuracy of nomenclature, but is aimed rather at listing under some approximately correct name, all the ferns exhibited, and it is hoped that it may serve as a basis for a more accurate and complete list of horticultural fern species in general. As it stands, it probably includes nearly all the ferns which may be considered commercial forms. Some additions, of course, must be made. Not all the current forms of *Pteris* and *Nephrolepis* are shown, and some other types must probably be added, but with these possibilities, the present list is offered as preliminary to the drawing up of possibly a standardized generally accepted set of names.

In conclusion, it may be added that Mr. Wm. R. Maxon, of the Smithsonian Institution, Washington, will be glad to receive herbarium specimens of various cultivated ferns, and to give identifications when desired. At the Brooklyn Botanic Garden, I shall be glad to receive living specimens of cultivated ferns, and to identify as far as possible varieties of Boston fern

and other horticultural forms. Any information which will aid in correcting, or adding to the attached list, especially if accompanied by specimens, will be welcome.

ALPHABETICAL LIST OF GENERA AND SPECIES.

Adiantum Bausei	longissimum
Charlottae	nidus
Cróweanum	rigidum
cuneatum	viviparum
diaphanum	
Farleyense	Azolla caroliniana
formosum	
gracillimum	Blechnum brasiliense
gloriosum	brasiliense undulatum
hybridum	gibbum
Lemkesi	occidentale
multiceps	
O'Brieni	Callipteris esculenta
reginae	
rhodophyllum	Campyloneuron decurrens
tenerum	phyllitidis
trapeziforme	
	Ceratopteris pteridoides
Alcicornium alcicorne	
angolense	Ceropteris tartarea
biforme	
ethiopicum	Cibotium glaucum
grande	lucidum
Hillii	Mandianum
Hillii majus	princeps
majus	regale
Stemmaria	Schiedei
Veitchii	
Willinckii	Coniogramme japonicum nigrum
Alsophila australis	Cyathea medullaris
dealbata	
Mandiana	Cyclophorus lingua
robusta	lingua corymbifera
	numularioifolius
Anapausia aliena	
flagellifera	Cyrtomium caryotideum
	falcatum
Angiopteris evecta	falcatum Davidianum
	falcatum Rochfordianum
	falc. Rochf. compactum
Asplenium flaccidum	
	Davallia bullata

Davallia	Marsilea Drummondii
elegans	quadrifolia
fijiensis	Meniscium, species
fijiensis plumosa	Microlepia marginalis
lucida	Nephrolepis acuminata
pentaphylla	acuta
Mooreana	Barteri
Dennstaedtia adiantoides	biserrata
cicutaria	biserrata furcans
Dicksonia antarctica	cordifolia
Didymochlaena lunulata	cordifolia compacta
Diplazium lanceum	cordifolia gigantea
zeylanicum	cordifolia tessellata
Doodia aspera	Duffii
lunulata	exaltata
Doryopteris elegans	exaltata bostoniensis
Dryopteris filix-mas lepidia	exalt. bost. Alberti
filix-mas Richardsii mul-	Amerpohli
tifida	Anna Foster
lepidocaulon	Craigi
setigera	densa
viridescens	dissecta
Elaphoglossum guatemalense	edmontoniensis
latifolium	elegantissima
muscosum	elegantissima com-
stelligerum	pacta
Equisetum scirpoides	Elmsfordii
Gymnogramme (Ceropteris)	"Emerald fleece"
Humata membranacea	falcata
Hymenodium crinitum	fertilis
Isoetes, species	Galvestoni
Lygodium japonicum	Giatrasi
	Gretnai
	Hillii
	Macawii
	magnifica
	Marshallii
	Milleri
	Millsii
	muscosa
	Norwoodi
	Piersoni

Nephrolepis exalt. bost.	Polypodium aureum
plumosa	aureum Mandianum
plumosa aurea	aureum Lowii
Randolphii	fraxinifolium
Rochfordii	glauco-pruinatum
robusta	heracleum
Rooseveltii	incanum
Schubertii	Meyenianum
Scholzelii	neriifolium
Scottii	pectinatum
Smithii	percussum
superbissima	piloselloides
superior	punctatum
splendida	pustulatum
"Teddy Jr."	sphaeridocarpon
todeoides	subauriculatum
todeoides compacta	subauriculatum Knightae
"trailing"	vacciniaefolium
verona	Polystichum adianti-
victoria	folium (coriaceum)
viridissima	amabile
Wagneri	aristatum
Wanamakeri	lobatum
Whitmani	setosum
Whitmani compacta	tsus-simense
floccigera	variegatum (aristatum)
hirsutula	varium
Mayii	Psilotum triquetrum
Mayii cristata	Pteris altissima
pectinata	cretica
recurvata	albo-lineata
rivularis	Alexandrae
superba	rivertoniana
Westoni	Wilsoni
zollingeriana	ensiformis Victoriae
Onychium japonicum	juglandifolia
Pellaea falcata	longifolia
viridis	Parkeri
Pessopteris crassifolia	podophylla
Platycterium (Alcicornium)	quadriaurita argyraea
Polybotrya osmundacea	serrulata
	serrulata cristata
	tremula
	Wallichii

<i>Salvinia natans</i>	<i>patula</i>
	<i>Pitcheiriana</i>
<i>Selaginella africana</i>	<i>serpens</i>
<i>amoena</i>	<i>viticulosa</i>
<i>Brownii</i>	<i>Willdenovii</i>
<i>caesia (uncinata)</i>	
<i>caulescens</i>	<i>Selliguea caudiformis</i>
<i>denticulata</i>	<i>elliptica</i>
<i>emiliana</i>	
<i>emiliana aurea</i>	<i>Stenochlaena tenuifolia</i>
<i>haematodes</i>	
<i>Kraussiana</i>	<i>Tectaria cicutaria</i>
<i>Mandiana</i>	<i>heracleifolia</i>
<i>Martensii</i>	<i>Vittaria lineata</i>
<i>Martensii variegata</i>	<i>Woodwardia orientalis</i>

By way of summarizing, it may be noted that the total number of forms listed is 248; that of these W. A. Manda showed one hundred and forty-eight different kinds; A. C. Burrage one hundred fifteen; the Brooklyn Botanic Garden one hundred and eight. In the total list, fifty-four genera out of the total one hundred fifty fern genera known, were represented. Mr. Burrage's collection included forty different genera.

BROOKLYN BOTANIC GARDEN

Notes on American Ferns—XVIII¹

WILLIAM R. MAXON.

ASPLENIUM PALMERI Maxon. This species, which is common in Mexico, has heretofore been known in the United States only from specimens collected in the Mule Mountains, Cochise County, Arizona, August, 1911, by Leslie N. Goodding (no. 976). It may now be reported from the Organ Mountains, New Mexico, upon material collected by E. O. Wootton, March 3, 1907. The specimen referred to is in the Dudley Herbarium of Stanford University, mounted with plants of *A. resiliens* Kunze, these apparently collected at the same time and place.

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